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[redacted] 8849-69
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18 March 1969

MEMORANDUM FOR: 303 Committee

SUBJECT: OXCART and SR-71 Mach 3 Reconnaissance Aircraft

1. In reflecting on my remarks made at our 11 March meeting regarding the SR-71 reconnaissance aircraft and the implications if used and lost over South China, I thought it might be useful to pass on some information for background purposes regarding the state-of-the-art technology this aircraft represents. In doing so I shall recount and draw heavily on some salient points regarding U. S. Mach 3.2 aircraft developments with which I am familiar and in which the Agency played a considerable part. The general technical observations by and large also apply to the SR-71 aircraft.

2. The OXCART A-12, a Mach 3.2 reconnaissance aircraft,

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Handle Via [redacted] Control System Only

(predecessor to the SAC SR-71 aircraft) was conceived, developed and operated by CIA as a follow-on to the U-2 reconnaissance aircraft to better enable us to survive within the improved defenses of our enemies. The CIA A-12 contract was awarded to Lockheed Aircraft Corporation in January 1960 and the first test flight occurred in April 1962. This aircraft was the first anywhere constructed primarily of titanium to accommodate the range of temperature extremes and in particular, the steady-state 550°F to 750°F skin temperatures, encountered during Mach 3.2 flight (1840 knots per hour) at cruise and altitudes usually in excess of 80,000 feet. To accommodate this severe range of temperatures required pioneering and development and use of state-of-the-art U.S. technology in almost every aspect of the aircraft and ancillary systems. The expenditures for the development and operation of the OXCART A-12 aircraft, from 1960 to its termination by the President 25X1A for budgetary reasons in 1968, were [redacted] In addition, the investment in the SR-71 [redacted] There follows 25X1A several examples of the sophistication required in this reconnaissance effort. In addition to the unique aircraft and specially developed engines, special camera windows were required to be developed to cope with

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550°F temperatures in order to enable the specially developed camera

25X1D to function at optimum [redacted] ground resolution. Special high temperature fuels and lubricants were required and developed. Among the latter were lubricants good for 600°F that required diluents because they were changing from liquid to solid at temperatures below 40°F. New escape systems and emergency systems were required and developed to enable pilots to function normally in the aircraft and

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to survive during emergency ejections at operational altitudes and speeds or near the ground.

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25X1D [redacted] The design of the automatic air inlet control system represented one of the most challenging tasks to enable the aircraft to operate efficiently from take-off to Mach 3.2.

3. The Agency A-12 aircraft, flown by a single pilot, was designed primarily for peacetime reconnaissance with somewhat higher altitudes and camera resolutions achieved than the two crew (pilot and a sensor reconnaissance operator) SR-71 multi-sensor aircraft. The SAC SR-71, contracted for in March 1963, was designed primarily for military reconnaissance applications. It had its first test flight in December 1964.

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4. During the life of the OXCART A-12 program, a total of 2,850 flights were made for a total of 4,800 flight hours. The maximum altitude reached on a test flight was [redacted] and the longest single flight was [redacted] In May 1967, three A-12 aircraft were deployed to Kadena Air Base, Okinawa, covering the 6,874 nautical miles at an average elapsed time of six hours and seven minutes. Twenty-nine operational missions were performed by the A-12 aircraft from Kadena Air Base in Okinawa during a deployment from 31 May 1967 to 6 May 1968, when relieved of this requirement by the SAC SR-71 aircraft. Of these missions, twenty-six were conducted over North Vietnam and Cambodia, and three were flown over North Korea following the Pueblo incident. Since assuming the reconnaissance role against North Vietnam in March 1968, the SR-71 has performed over sixty missions against North Vietnam. The SAC SR-71 is the only sophisticated Mach 3.2 manned aircraft and program currently operational.

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5. In conclusion and for your information, following the return of OXCART A-12 aircraft from Kadena in June 1968, all of the aircraft,

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including one trainer, two test and five operationally configured ones, were put in storage at Palmdale, California. The five operationally-configured A-12 aircraft are stored with a ninety-day package of spare parts to enable a retrieval of this unique capability in the event future considerations warrant reactivation of OXCART.

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